Exercise - I (Conceptual Questions) Build Up Your Understanding

NEURAL SYSTEM AND NEURAL TISSUE

1. Nissl's bodies found in neurons are :-
(1) Made of DNA
(2) Masses of RER
(3) Help in formation of neurofibrils
(4) Masses of mitochondria

2. "Nodes of Ranviers" are found in :-
(1) Brain (2) Heart
(3) Axon (4) Eye

3. Afferent nerve fiber conducts impulse from :-
(1) C.N.S. to effector
(2) Receptor to C.N.S.
(3) Receptor to effector
(4) Effector to receptor

4. Nissl granules occur in which part and what is their function ?
(1) Neurons and help in protein synthesis
(2) Blood and help in nutrition and excretion
(3) Sarcoplasm and help in contraction
(4) Mucous cell and secrete mucous

5. The parts of the neurons that perform basic cellular functions such as protein synthesis etc. :–
(1) Axons (2) Axon hillock
(3) Synaptic knobs (4) Soma

6. The nerves leading to the central nervous system are called :-
(1) Afferent (2) Efferent
(3) Motor (4) None

7. Unit of nervous system :-
(1) Neuron (2) Neuroglia
(3) Axon (4) Cyton

8. Integrative system in the body are :-
(1) Endocrine system
(2) Nervous system
(2) Blood vascular system
(4) Both (1) & (2)

9. The Schwann sheath is :-
(1) A non-myelinated nerve fibres
(2) Associated with myelin sheath
(3) A connective tissue cell
(4) Associated with myelinated & non-myelinated nerve fibre

TG: @Chalnaayaaar

10. Rapid integration of the functional activities in human is achieved by :-
(1) Nervous system (2) Endocrine system
(3) Blood (4) Muscular system

11. Which one of the following types of neurons are most numerous in the body ?
(1) Unipolar (2) Multipolar
(3) Bipolar (4) Pseudounipolar

12. Sheath of schwann occurs on :-
(1) Neurons (2) Axons
(3) Dendrons (4) Neuroglia

13. Which cell-organellae absent in neurons ?
(1) Mitochondria (2) Ribosome
(3) Centriole (4) Nucleus

14. Nerve fibres are surrounded by an insulating fatty layer called :-
(1) Adipose sheath (2) Myelin sheath
(3) Hyaline sheath (4) Peritoneum

15. Myelinogenesis (Myelin formation) process occur in C.N.S. (central nervous system)
(1) By schwann cells
(2) By oligodendrocytes
(3) By Axolemma
(4) By neurolemma

16. Which of the following statement is correct for node of Ranvier of nerve ?
(1) Neurilemma is discontinuous
(2) Myelin sheath is discontinuous
(3) Both neurilemma & Myelin sheath are discontinuous
(4) Covered by myelin sheath

17. The “Nissle's granules” of nerve cell's are made up of :-
(1) Ribosome (2) Protein
(3) DNA (4) Mitochondria

18. Non Myelinated axons differ from myelinated in that they :-
(1) Are more excitable
(2) Lack nodes of Ranvier
(3) Are not capable of regeneration
(4) Are not associated with Schwann cells

TG: @Chalnaayaaar

19. If myelin sheath is continuous in myelinated nerve fibre than what will happens in neuronal conduction?
(1) Velocity is increased
(2) Conduction is slow
(3) Conduction is stopped
(4) No effect

20. Nerve cells do not possess -
(1) Neurilemma (2) Sarcolemma
(3) Dendrites (4) Axon

21. Myelin sheath covers which of the following ?
(1) Muscle fibre (2) Nerve fibre
(3) Collagen fiber (4) Tendons

22. Dendrites are associated with which system ?
(1) Nervous system
(2) Digestive system
(3) Muscular system
(4) Blood vascular system

23. The gray matter differs from white matter in the:-
(1) Absence of axons
(2) Absence of myelin sheath
(3) Presence of myelin sheath
(4) Absence of nurilemma

24. Nerve cells possess
(a) Dendrites (b) Axon
(c) Sarcolemma (d) Neurilemma
(1) a, b (2) a, b, c
(3) a, b, d (4) a, b, c, d

25. The nervous system is derived from :-
(1) Ectoderm
(2) Endoderm
(3) Mesoderm
(4) Ecto and Mesoderm

26. The nerve cell can be distinguished from other cells of the body by the presence of :-
(1) Neuroplasm (2) Neurolemma
(3) Mitochondria (4) Neurites

27. Function of nervous tissue is :-
(1) Irritability or Excitability
(2) Sensitivity
(3) Elasticity
(4) Contraction

28. Which of the following processes occur only in animals ?
(1) Hormonal control
(2) Respiration
(3) Nervous control
(4) Nutrition

29. Which cell in our body is more than a feet long?
(1) Nerve cell (2) Muscle cell
(3) Bone cell (4) Gland cell

30. Which cell stop dividing after birth ?
(1) Epithelium (2) Neuron
(3) Glial cells (4) Liver

31. In which animal, nerve cell is present but brain is absent ?
(1) Sponge (2) Earthworm
(3) Cockroach (4) Hydra

32. Intercellular communication in multicellular organism occurs through -
(1) Nervous system only
(2) Digestive system only
(3) Respiratory system only
(4) Both nervous and endocrine system

33. Myelin sheath is derived from :
(1) Astrocytes cells (2) Schwann cells
(3) Nerve cells (4) All of these

34. Synaptic vesicles are found in –
(1) Presynaptic neuron
(2) Post synaptic neuron
(3) Synaptic cleft
(4) None of these

35. Nissl's granules are absent in :
(1) Axon (2) Cyton
(3) Dendron (4) Dendrites

36. In a myelinated neuron, two adjacent myelin sheaths are separated by gaps called :
(1) Nodes of Ranvier
(2) Synaptic cleft
(3) Synaptic knob
(4) Neural plate

37. Nissl's granules are found in :
(1) Liver cells (2) Nerve cells
(3) Kidney (4) Heart

TG: @Chalnaayaaar

NERVE IMPULSE CONDUCTION

38. Chemical transmission of nerve impulses from one neuron to another at a synapse is by:-
(1) Cholesterol (2) Acetylcholine
(3) Cholecystokinin (4) ATP

39. Saltatory conduction occurs in :-
(1) Non-myelinated fibers
(2) Myelinated fibers
(3) Both of them
(4) None of them

40. When a nerve fibers is stimulated the inside of the membrane becomes :-
(1) Filled with acetyl choline
(2) Negatively charged
(3) Positively charged
(4) Neutral

41. "Jumping of the action potential" at the nodes of ranvier is known as :-
(1) Saltatory conduction
(2) Neuro transmission
(3) Recovery phase
(4) Active phase

42. Nerve impulses are generated by nerve fibers only when the membrane shall become more permeable to :-
(1) Adrenaline (2) Phosphorus
(3) Sodium ions (4) Potassium ions

43. Speed of impulse on nerves in mammals is :-
(1) 1 meter/sec. (2) 100 meter/sec.
(3) 1000 meter/sec. (4) None of these

44. The functional connection between two neurons is called :-
(1) Synapse (2) Synapsis
(3) Chiasma (4) Chiasmata

45. Conduction of nerve impulse is :-
(1) Faster in non-myelinated fibres
(2) Faster in myelinated fibres
(3) No difference in the rate of conduction in myelinated & non-myelinated fibres
(4) None of the above

46. A short period during which a nerve is unable to conduct nerve impulse is called :-
(1) Synaptic delay (2) Refractory period
(3) Resting potential (4) Critical period

TG: @Chalnaayaaar

47. When the axons membrane is positively charged outside and negatively charged inside, then the condition is known as :-
(1) Action potential
(2) Resting potential
(3) Active potential
(4) Differential potential

48. The main function of acetylcholine is to :-
(1) Increase heart beat
(2) Help in synaptic transmission of nerve impulse
(3) Help in conduction of nerve impulse through axon
(4) Control reflex action

49. Depolarization of axolemma during nerve conduction takes place because of-
(1) Equal amount of Na^+ & K^+ move out across axolemma
(2) Na^+ move inside
(3) More Na^+ outside
(4) None

50. In the resting state of the neural membrane, diffusion due to concentration gradients, if allowed, would drive :-
(1) K^+ and Na^+ out of the cell
(2) Na^+ into the cell
(3) Na^+ out of the cell
(4) K^+ into the cell

51. Unidirectional transmission of a nerve impulse through synapse fibre is due to :–
(1) Nerve fibre is insulated by a medullary sheath.
(2) Sodium pump starts operating only at the cyton and then continues into the nerve fibre.
(3) Neurotransmitters are released by dendrites and not by axon endings.
(4) Neurotransmitters are released by the axon endings and not by dendrites.

52. Repolarisation of Neuron is occured due to:-
(1) Influx of Na^+
(2) Influx of K^+
(3) Efflux of Na^+
(4) Efflux of K^+

TG: @Chalnaayaaar

53. If GABA is released at synapse area then what will happens :-
(1) Depolarization of neuron
(2) Repolarization of neuron
(3) Hyperpolarization of neuron
(4) No effect

54. Nerve impulse travel through synapse with the help of
(1) Acetylcholine and sympathetin
(2) Choline and acetylcholine
(3) Adrenaline and noradrenaline
(4) None of the above

55. A typical value of resting membrane potential is:
(1) –40 mv (2) –60 mv
(3) –70 mv (4) –80 mv

56. Pre synaptic membrane is part of :
(1) Dendron (2) Axon hillock
(3) Telodendria (4) Soma

57. Acetylcholinesterase enzyme splits acetylcholine into :
(1) Acetone and choline
(2) Acetic acid and choline
(3) Amino acid and choline
(4) Aspartic acid and acetylcholine

58. During nerve impulse conduction permeability of a membrane is greater for :
(1) Na^+
(2) K^+
(3) Equal for both (1) and (2)
(4) Ca^{+2}

59. Acetylcholinesterase help in breaking :
(1) Synapse (2) Acetylcholine
(3) Dendrites (4) Axon

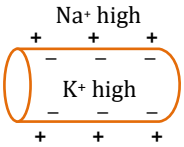
60. Action potential of a nerve cell is generated by :
(1) Na^+ (2) K^+ (3) Ca^{++} (4) Cl^-

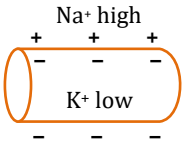
61. Connection between axon and dendrite is :
(1) Synapse (2) Synapsis
(3) Desmosome (4) Tight junction

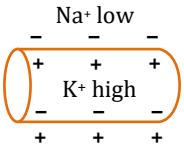
62. During repolarisation of nerve :
(1) K^+ gates closes and Na^+ gates opens
(2) Na^+ channels are closed and K^+ channels are open
(3) Both gates remain open
(4) Both K^+ and Na^+ gates are closed

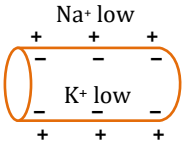
TG: @Chalnaayaaar

63. Which of the following diagram illustrates the distribution of Na^+ and K^+ ions in a section of non-myelinated axon which is at resting potential?

(1) 

(2) 

(3) 

(2) 

64. The one way or unidirectional transmission of nerve cells is due to :
(1) Synapses
(2) Myelin sheath
(3) Membrane polarity
(4) Interneurons

65. The forebrain develops into-
(1) Diencephalon and Cerebrum
(2) Diencephalon and Cerebellum
(3) Diencephalon and Medulla
(4) Diencephalon and Pons

66. Nerve impulse initiates with the movement of:
(1) K^+ (2) Na^+ (3) Ca^{++} (4) Mg^{+2}

67. Na^+/K^+ pump in a cell is an example of –
(1) Osmosis
(2) Diffusion
(3) Passive transport
(4) Active transport

STRUCTURE AND FUNCTION OF BRAIN

68. Corpus callosum connects :-
(1) Two cerebral hemisphere
(2) Two optic lobes
(3) Two olfactory lobes
(4) Optic chiasma

69. Outer most covering of brain is called :-
(1) Choroid (2) Duramater
(3) Piamater (4) Arachnoid

70. The membrane which cover the brain and the spinal cord is :-
(1) White matter (2) Grey matter
(3) Peritonium (4) Menix

71. Cerebellum is concerned with :-
(1) Co-ordination of muscular movement
(2) Memory
(3) Vision
(4) Reflex action

72. Crura cerebri is located in :-
(1) Fore brain (2) Hind brain
(3) Mid brain (4) None

73. Piamater is :-
(1) Inner most meninge (2) Middle meninge
(3) Outer meninge (4) None

74. The box like bony structure which encloses the brain is called :-
(1) Cranium (2) Pericardium
(3) Peritoneum (4) Periosteum

75. In brain crura cerebri is a structure made of :-
(1) Six bands of nerve fibres
(2) Eight bands of nerve fibres
(3) Two large bands of nerve fibres
(4) Four bands of nerve fibres

76. Which one of the following menix is present only in mammalian brain :-
(1) Duramater (2) Arachnoid
(3) Piamater (4) None of them

77. Small, solid and four optic lobes or colliculus called corpora quadrigemina are found in :-
(1) Mammals (2) Amphibians
(3) Aves (4) Reptiles

78. Hypothalamus is situated on the :-
(1) Upper lateral surface of diencephalon
(2) Lower lateral surface of diencephalon
(3) Ventral side of optic lobes
(4) Dorsal side of optic lobes

79. Epithalamus is situated on the :-
(1) Roof of diencephalon
(2) Lateral wall of diencephalon
(3) Dorsal side of optic lobes
(4) Floor of diencephalon

80. Which of the following is a richly vascular layer with lots of blood capillaries :-
(1) Duramater (2) Piamater
(3) Epidermis of skin (4) Both (1) & (2)

TG: @Chalnaayaaar

81. Which of the following is not a part of hind brain :–
(1) Medulla oblongata (2) Thalamus
(3) Cerebellum (4) Pons

82. Which is correct about Pons Varolii ?
(1) Situated between midbrain & M.O.
(2) Pons contains Pneumotaxic centre
(3) Inner gray, outer white matter
(4) All of the above

83. If the corpus callosum is removed in mammalian brain then what will be affected:-
(1) Coordination of Cerebrum
(2) Involuntary activity of brain
(3) Coordination of Cerebellum
(4) Behaviour and emotional disturbances

84. The name of nervous band connecting both the cerebral hemispheres in your brain -
(1) Corpus albicans
(2) Corpus callosum
(3) Corpus striatum
(4) Corpus spongiosum

85. Arbor vitae is a part of -
(1) Cerebrum (2) Cerebellum
(3) Midbrain (4) Forebrain

86. Human brain is covered by a hard layer called
(1) White matter
(2) Duramater
(3) Piamater
(4) Gray matter

87. Which of the following is the part of mid brain?
(1) Cerebrum
(2) Diencephalon
(3) Corpora quadrigemina
(4) None of these

88. The function of cerebrospinal fluid does not include:
(1) Protection of brain and spinal cord by containing antibody
(2) Protection of delicate brain and spinal cord from shock
(3) As a medium for excretion of waste product
(4) Buoyancy to brain

TG: @Chalnaayaaar

89. Cerebral hemispheres of mammals consist of-
(1) Outer gray matter and central white matter
(2) Outer white matter and central gray matter
(3) Gray matter and white matter inter mingled
(4) Gray matter only

90. Which of the following forms the cerebro-spinal fluid:-
(1) Choroid plexus
(2) Duramater
(3) Arachnoid mater
(4) Cerebrum and spinal cord

91. If Broca's area is completely injured then what happen firstly:–
(1) Concerning speech muscle are paralysed
(2) Speech stuttered & not clear
(3) Unable to speak
(4) Only able to speak written word

92. In man the osmotic centres are situated in -
(1) Cerebrum (2) Hypothalamus
(3) Pituitary gland (4) Medulla oblongata

93. Hypothalamus does not control -
(1) Libido
(2) Osmoregulation
(3) Creative thinking and consciousness
(4) Thermoregulation

94. Choroid plexus is a network of -
(1) Nerves (2) Muscle fibres
(3) Capillaries (4) Lymph vessels

95. Voluntary activites of body are controlled by-
(1) Diencephalon (2) Cerebrum
(3) Crura cerebri (4) Cerebellum

96. Thermo regulatory center in human brain is :-
(1) Pituitary (2) Diencephalon
(3) Hypothalamus (4) None

97. Respiratory control in brain occurs in :-
(1) Medulla oblongata (2) Cerebellum
(3) Hypothalamus (4) Pericardium

98. Drinking of alcohol affects mostly:-
(1) Cerebrum
(2) Cerebellum
(3) Medulla oblongata
(4) Diencephalon

99. Which part of the brain regulates the body temperature, hunger and water balance :-
(1) Hypothalamus
(2) Infundibulum
(3) Medulla oblongata
(4) Pons veroli

100. Most of the involuntary action are controlled by :-
(1) Medulla oblongata (2) Cerebrum
(3) Cerebellum (4) Diencephalon

101. When the medulla oblongata (M.O.) is damaged, then what happen ?
(1) Immediately die
(2) Die after few hrs.
(3) Live at 1 hrs & after it may die
(4) No affect

102. Cerebellar hemisphere is the centre of :-
(1) Taste (2) Smell
(3) Balance (4) Thinking

103. Which part of brain is supposed to be damaged if in an accident, a person lost control of water balance, hunger and body temp. :-
(1) Cerebellum
(2) Hypothalamus
(3) Medula oblongata
(4) Corpora quadrigemina

104. Which part of brain controls emotions like love, anger and pleasure –
(1) M. O. (2) Hypothalamus
(3) Mid brain (4) Cerebellum

105. Brain of human differs from that of frog in having:-
(1) Large olfactory lobe
(2) Small hypothalamus
(3) Small cerebellum
(4) Corpus callosum

106. Difference found between brain of frog and Human is :-
(1) Presence of corpus callosum
(2) Corpus albicans
(3) Four optic lobes
(4) All of these

TG: @Chalnaayaaar

107. Hippocampal lobes are the parts of :-
(1) Olfactory lobes
(2) Cerebrum
(3) Cerebellum
(4) Medulla Oblongata

108. Which part of the brain is more developed in human?
(1) Medulla (2) Cerebellum
(3) Cerebrum (4) Optic lobes

109. Which of the following is not correctly matched :-
(1) Cerebrum – Olfaction
(2) Hypothalamus – Pituitary
(3) Cerebellum – Balance
(4) Mid brain – Temperature regulation

110. The correct sequence of meninges of brain from outside to inside is :
(1) Duramater → Arachnoid → Piamater
(2) Arachnoid → Duramater → Piamater
(3) Piamater → Duramater → Arachnoid
(4) Duramater → Piamater → Arachnoid

111. The thermoregulatory centre in the body of man is found in :
(1) Diencephalon (2) Hypothalamus
(3) Pituitary (4) Skin

112. Part of brain concerned with the muscular movement is :
(1) Cerebellum
(2) Thalamus
(3) Hippocampus
(4) Temporal lobe of cerebrum

113. In human corpus callosum connects :
(1) The two optic lobes
(2) Bone and muscle
(3) The two cerebral hemispheres
(4) Two lobes of pituitary gland

114. Broca's area of speech is present in :
(1) Parietal lobe
(2) Temporal lobes
(3) Temporal and occipital lobe
(4) Frontal lobe

TG: @Chalnaayaaar

115. In human body muscular co-ordination is controlled by:
(1) Spinal cord (2) Cortex
(3) Cerebellum (4) Cerebral hemisphere

116. The optic lobe in humans are represented by the corpora –
(1) Bigemina (2) Arenacea
(3) Striata (4) Quadrigemina

SPINAL CORD, PNS, ANS

117. Which of the following is not an organ of the central nervous system :-
(1) Brain (2) Spinal cord
(3) Medulla oblongata (4) Vagus

118. Ventral root of spinal nerve has :-
(1) Sensory fibers
(2) Motor fibers
(3) Sensory and motor fibers both
(4) None of these

119. Cavity in spinal cord is called :-
(1) Enterocoel (2) Blastocoel
(3) Schizocoel (4) Neurocoel

120. Last end of spinal cord is called :-
(1) Cauda equina
(2) Filum terminale
(3) Funiculus
(4) Conus medullaris

121. Through which aperture the spinal cord passes out of skull :-
(1) Foramen of monro
(2) Foramen of paninze
(3) Foramen of magnum
(4) None of the above

122. The "butter fly" like structure surrounding the central cavity of human's spinal cord is called :-
(1) Funiculus (2) Horn
(3) White matter (4) Gray matter

123. Which has H-shaped gray matter ?
(1) Cerebrum
(2) Spinal cord
(3) Cerebellum
(4) Medulla oblongata

TG: @Chalnaayaaar

124. Which cranial nerves are sensory :-
(1) 1, 2, 8 (2) 3, 4, 6, 11, 12
(3) 5, 7, 9, 10 (4) None of them

125. Smallest cranial nerve is :-
(1) X-cranial nerve (2) VI-cranial nerve
(3) VII-cranial nerve (4) II-cranial nerve

126. Which cranial nerve is the longest and supplies all parts of body other than head :-
(1) Trochlear nerve (2) Vagus nerve
(3) Occulomotor nerve (4) Auditary nerve

127. Purely motor cranial nerve includes :-
(1) I, V, VII (2) I, II, IV
(3) III, IV, VI, XI (4) None of these

128. Parasympathetic system increase activity of:-
(1) Lacrimal gland, sweat gland, arrector pili
(2) Heart, lacrimal gland, pancreas
(3) Heart, adrenal gland and sweat gland
(4) Gut, urinary bladder and digestive gland

129. Which nerve is purely motor :-
(1) Abducens (2) Trigeminal
(3) Olfactory (4) Vagus

130. The III, VI and XI cranial nerve in mammals are respectively :-
(1) Occulomotor, abducens and hypoglossal
(2) Occulomotor, abducens and spinal accessory
(3) Trochlear, facial and spinal accessory
(4) Trigeminal, abducens and vagus

131. Heart is innervated by :-
(1) Vagus (2) Trigeminal
(3) Facial (4) Glossopharyngeal

132. Number of spinal nerves in human :-
(1) 31 pairs (2) 32 pairs
(3) 12 pairs (4) 37 pairs

133. Which nerve originates from medulla :-
(1) Optic (2) Occulomotor
(3) Vagus (4) Trigeminal

134. In human, autonomic nervous system is composed of :-
(1) Sympathetic and parasympathetic nerves
(2) Cranial and spinal nerves
(3) Brain and spinal nerves
(4) Medullated and non-medullated nerves

TG: @Chalnaayaaar

135. How many pairs of cranial nerves are purely sensory :-
(1) Two (2) Three
(3) Four (4) Five

136. Optic nerve is the :-
(1) Fifth cranial nerves
(2) Second cranial nerve
(3) Seventh cranial nerve
(4) Ninth cranial nerve

137. All spinal nerves are :-
(1) Motor (2) Sensory
(3) Mixed (4) None of the above

138. Which of the following nerve helps in maintaining the equilibrium of body :-
(1) Trochlear (2) Abducens
(3) Auditory (4) Facial

139. Autonomic nervous system controls :-
(1) Conditioned reflexes
(2) Functioning of spinal cord
(3) Functioning of visceral organs
(4) Reflex actions

140. Stimulation of sympathetic nervous system causes :-
(1) Constriction of blood vessels and high blood pressure
(2) Dilation of bronchi & pupil
(3) Erection of hair
(4) All of the above

141. The two additional cranial nerves present in mammals are :-
(1) Pharyngeal & vagus
(2) Spinal accessory and hypoglossal
(3) Trigeminal and glossopharyngeal
(4) Hypoglossal and sciatic

142. Which of the following spinal nerves does not found in human :-
(1) Caudal nerves (2) Sacral nerves
(3) Cervical nerves (4) Lumbar nerves

143. Which of the following cranial nerves of human are mixed in nature :-
(1) Vagus & trigeminal
(2) Optic & vagus
(3) Auditory & olfactory
(4) Trochlear and vagus

144. The cranial and spinal nerves are included under-
(1) Autonomic nervous system
(2) Peripheral nervous system
(3) Central nervous system
(4) Cutaneous nervous system

145. Conservation of energy take place by :-
(1) Sympathetic nervous system
(2) Parasympathetic nervous system
(3) Reflex action
(4) None

146. If parasympathetic nerve is cut, then heart beat–
(1) Unaffected (2) Decreases
(3) Increases (4) Stop

147. Norepinephrine leads to increase in :–
(1) Blood pressure
(2) Urine production
(3) Cellular respiration
(4) Release of epinephrine

148. In a man, if abducens nerve is injured, which one of the following functions will be affected?
(1) Movement of the neck
(2) Movement of the tongue
(3) Movement of the eye ball
(4) Swallowing

149. Which cranial nerve provides taste sensation in anterior 2/3rd part of tongue –
(1) Trigeminal (2) Facial
(3) Glossopharyngeal (4) Hypoglossal

150. In emergency condition, all changes occur in our body except –
(1) Heart beat increases
(2) Dilates blood vessels of brain, lungs, heart and striated muscle
(3) Brochodilation
(4) Micturition is done

151. Which of the following cranial nerve is not a motor nerve ?
(1) II (2) III (3) IV (4) XII

152. Match the following human spinal nerves in column I with II and choose the correct options :

Column-I	Column-II
(a) Cervical nerves	(i) 5 pairs
(b) Thoracic nerves	(ii) 1 pair
(c) Lumbar nerves	(iii) 12 pairs
(d) Coccygeal nerves	(iv) 8 pairs

(1) a–ii, b–iv, c–i, d–iii
(2) a–iv, b–iii, c–i, d–ii
(3) a–iv, b–ii, c–i, d–iv
(4) a–i, b–iv, c–ii, d–iii

153. 9th Pair of cranial nerve in human is -
(1) Vagus
(2) Trigeminal
(3) Hypoglossal
(4) Glossopharyngeal

154. Which of the following is not under the control of vagus nerve ?
(1) Gastrointestinal movement
(2) Respiratory movement
(3) Salivation
(4) None of these

155. Which of the following is released by parasympathtic nervous system ?
(1) Serotonin (2) Acetylcholine
(3) Epinephrine (4) Norepinephrine

156. Facial nerve is –
(1) Motor (2) Sensory
(3) Motor and sensory (4) None of these

157. Number of cranial nerve in human is -
(1) Ten only (2) Ten pairs
(3) Twenty pairs (4) Twelve pairs

158. Which of the following pair is mismatched–
(1) Cerebrum – voluntary activities
(2) Cerebellum – body balance
(3) M. O. – Pneumotaxic centre
(4) Spinal cord – reflex action

159. After sympathetic stimulation, which type of activities are not present in human being :
(1) Tachycardia
(2) Bronchodilation
(3) Micturition
(4) Semen Ejaculation

160. Which of the following two systems are opposite in action to each other ?
(1) Nervous – Sensory
(2) Nervous – Endocrine
(3) Sensory – Endocrine
(4) Parasympathetic – Sympathetic

TG: @Chalnaayaaar

TG: @Chalnaayaaar

161. You are watching a horror movie and you notice your heart is beating fast and mouth is dry. It is because of -
(1) Fight and flight response
(2) Autonomic nervous system
(3) Sympathetic nervous system
(4) Both (1) and (3)

162. Movement of tongue is under the control of -
(1) Trigeminal (2) Facial
(3) Autonomic system (4) Hypoglossal

163. If dorsal root of spinal cord is broken down then its effect is :-
(1) No effect on impulse
(2) Impulse is transmitted fast
(3) Impulse is transmitted but slowly
(4) No impulse is transmitted from receptor

164. ANS effects on :-
(1) Reflex actions
(2) Sensory organs
(3) Internal organs
(4) None of these

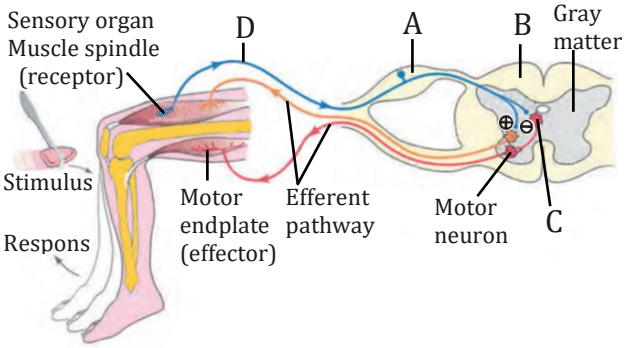
165. Five events in the transmission of nerve impulse across the synapse are given below
A. Opening of specific ion channels allows the entry of ions, a new action potential is generated in the post-synaptic neuron.
B. Neurotransmitter binds to the receptor on post synaptic membrane
C. Synaptic vesicle fuses with pre-synaptic membrane, neurotransmitter releases into synaptic cleft.
D. Depolarization of pre-synaptic membrane
E. Arrival of action potential at axon terminal.
In which sequence to the events occur?
(1) E → D → C → B → A
(2) A → B → C → D → E
(3) A → B → D → C → E
(4) E → D → C → A → B

166. Which of the following is a motor nerve ?
(1) Auditory
(2) Abducens
(3) Optic
(4) Trigeminal nerve

167. Which one of the following is not an effect of sympathetic nervous system –
(1) Dilation of pupil
(2) Inhibition of peristalsis
(3) Elevation of blood pressure
(4) Stimulation for saliva secretion

REFLEX ACTION

168. The following diagrammatic representation of reflex action shows knee jerk reflex.



In which of the following options corrects words for all the 5 blanks (A to E) are indicated?

	A	B	C	D
(1)	Dorsal root ganglion	White matter	Gray matter	Afferent pathway
(2)	Dorsal root ganglion	White matter	Interneuron	Afferent pathway
(3)	Dorsal root ganglion	Gray matter	White matter	Efferent pathway
(4)	Ventral root ganglion	White matter	Interneuron	Efferent pathway

169. Reflex action is controlled by :-
(1) Muscles
(2) Limbs
(3) Central nervous system
(4) Autonomic nervous system

170. Find out the correct sequence of a simple reflex are :-
(1) Brain-spinal cord - nerves - effector
(2) Effector - CNS - sensory nerves - receptor
(3) Muscles - spinal cord - brain - receptor
(4) Receptor - sensory nerves - CNS - effector

TG: @Chalnaayaaar

171. Sight of delicious food usually makes mouth watery, it is a :-
(1) Hormonal response
(2) Neural response
(3) Optic response
(4) Olfactory response

172. Reflex arc consists of :
(1) Motor nerve
(2) Sensory nerve
(3) Both sensory and motor nerves
(4) None of these

EXERCISE-I (Conceptual Questions) ANSWER KEY

Question	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Answer	2	3	2	1	4	1	1	4	4	1	2	2	3	2	2
Question	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
Answer	2	1	2	3	2	2	1	2	3	1	4	1	3	1	2
Question	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45
Answer	4	4	2	1	1	1	2	2	2	3	1	3	2	1	2
Question	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60
Answer	2	2	2	2	2	4	4	3	1	3	3	2	1	2	1
Question	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75
Answer	1	2	1	1	1	2	4	1	2	4	1	3	1	1	3
Question	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90
Answer	2	1	2	1	2	2	4	1	2	2	2	3	1	1	1
Question	91	92	93	94	95	96	97	98	99	100	101	102	103	104	105
Answer	3	2	3	3	2	3	1	2	1	1	1	3	2	2	4
Question	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120
Answer	4	2	3	4	1	2	1	3	4	3	4	4	2	4	4
Question	121	122	123	124	125	126	127	128	129	130	131	132	133	134	135
Answer	3	4	2	1	2	2	3	4	1	2	1	1	3	1	2
Question	136	137	138	139	140	141	142	143	144	145	146	147	148	149	150
Answer	2	3	3	3	4	2	1	1	2	2	3	1	3	2	4
Question	151	152	153	154	155	156	157	158	159	160	161	162	163	164	165
Answer	1	2	4	3	2	3	4	3	3	4	4	4	4	3	1
Question	166	167	168	169	170	171	172								
Answer	2	4	2	3	4	2	3								

TG: @Chalnaayaaar

Exercise - II (Previous Year Questions) AIPMT/NEET

AIPMT 2006

1. Which one of the following statements is correct?
(1) Neither hormones control neural activity nor the neuron control endocrine activity
(2) Endocrine glands regulate neural activity, but not vice versa
(3) Neurons regulate endocrine activity, but not vice versa
(4) Endocrine glands regulate neural activity, and nervous system regulates endocrine glands

2. Which one of the following does not act as a neurotransmitter?
(1) Norepinephrine (2) Cortisone
(3) Acetylcholine (4) Epinephrine

AIPMT 2007

3. During the transmission of nerve impulse through a nerve fibre, the potential on the inner side of the plasma membrane has which type of electric charge?
(1) First positive, then negative and continue to be negative
(2) First negative, then positive and continue to be positive
(3) First positive, then negative and again back to positive
(4) First negative, then positive and again back to negative

4. Which one of the following pairs of structures distinguishes a nerve cell from other types of cell?
(1) Vacuoles and fibres
(2) Flagellum and medullary sheath
(3) Nucleus and mitochondria
(4) Perikaryon and dendrites

TG: @Chalnaayaaar

AIPMT 2008

5. During the propagation of a nerve impulse, the action potential results from the movement of :
(1) K^+ from intracellular fluid to extracellular fluid
(2) Na^+ from extracellular fluid to intracellular fluid
(3) K^+ from extracellular fluid to intracellular fluid
(4) Na^+ from intracellular fluid to extracellular fluid

AIPMT 2010

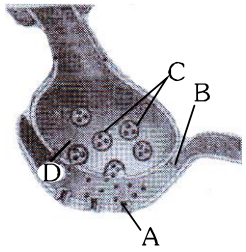
6. The nerve centres which control the body temperature and the urge for eating are contained in:
(1) Cerebellum (2) Thalamus
(3) Hypothalamus (4) Pons

Pre-AIPMT 2012

7. A person entering an empty room suddenly finds a snake right in front on opening the door. Which one of the following is likely to happen in his neuro-hormonal control system?
(1) Hypothalamus activates the parasympathetic division of brain
(2) Sympathetic nervous system is activated releasing epinephrine and norepinephrine from adrenal cortex
(3) Sympathetic nervous system is activated releasing epinephrine and norepinephrine from adrenal medulla
(4) Neurotransmitters diffuses rapidly across the synaptic cleft and transmit a nerve impulse

NEET-UG 2013

8. A diagram showing axon terminal and synapse is given below. Identify correctly at least two of A-D.



(1) C-Neurotransmitter, D-Ca^{++}
(2) A-Receptor, C-Synaptic vesicles
(3) B-Synaptic connection, D-K^{+}
(4) A-Neurotransmitter, B-Synaptic cleft

AIPMT 2014

9. How do parasympathetic neural signals affect the working of the human heart ?
(1) Reduce both heart rate and cardiac output.
(2) Heart rate is increased without affecting the cardiac output.
(3) Both heart rate and cardiac output increase.
(4) Heart rate decreases but cardiac output increases.

10. Injury localized to the hypothalamus would most likely to disrupt :
(1) short - term memory.
(2) co-ordination during locomotion.
(3) executive functions, such as decision making.
(4) regulation of body temperature.

AIPMT 2015

11. Which of the following regions of the brain is incorrectly paired with its function?
(1) Cerebellum- language comprehension
(2) Corpus callosum-communication between the left and right cerebral cortex
(3) Cerebrum- calculation and contemplation
(4) Medulla oblongata - homeostatic control

TG: @Chalnaayaaar

NEET-UG 2017

12. Myelin sheath is produced by:
(1) Astrocytes and Schwann cells
(2) Oligodendrocytes and Osteoclasts
(3) Osteoclasts and Astrocytes
(4) Schwann cells and Oligodendrocytes

13. Receptor sites for neurotransmitters are present on:
(1) Pre-synaptic membrane
(2) Tips of axons
(3) Post-synaptic membrane
(4) Membrane of synaptic vesicles

NEET-UG 2018

14. Which of the following structures or regions is ***incorrectly*** paired with its function?

(1)	Medulla oblongata	controls respiration and cardiovascular reflexes.
(2)	Limbic system	consists of fibre tracts that interconnect different regions of brain; controls movement.
(3)	Hypothalamus	production of releasing hormones and regulation of temperature hunger and thirst.
(4)	Corpus callosum	band of fibres connecting left and right cerebral hemispheres.

NEET-UG 2019

15. Which part of the brain is responsible for thermoregulation?
(1) Cerebrum
(2) Hypothalamus
(3) Corpus callosum
(4) Medulla oblongata

TG: @Chalnaayaaar

NEET-UG 2019 (Odisha)

16. Which of the following statements is **not** correct?

(1) An action potential in an axon does not move backward because the segment behind is in a refractory phase

(2) Depolarisation of hair cells of cochlea results in the opening of the mechanically gated potassium -ion channels.

(3) Rods are very sensitive and contribute to daylight vision.

(4) In the knee-jerk reflex, stimulus is the stretching of muscle and response is its contraction.

NEET-UG 2022

17. Select the incorrect statement regarding synapses:

(1) Electrical current can flow directly from one neuron into the other across the electrical synapse.

(2) Chemical synapses use neurotransmitters

(3) Impulse transmission across a chemical synapse is always faster than that across an electrical synapse.

(4) The membranes of presynaptic and postsynaptic neurons are in close proximity in an electrical synapse.

Re-NEET-UG 2022

18. Match **List - I** with **List - II**

	List - I		**List - II**
(a)	Multipolar neuron	(i)	Somatic neural system
(b)	Bipolar neuron	(ii)	Cerebral cortex
(c)	Myelinated nerve fibre	(iii)	Retina of Eye
(d)	Unmyelinated nerve fibre	(iv)	Spinal nerves

Choose the **correct answer** from the options given below :

(1) (a) – (iii), (b) – (i), (c) – (iv), (d) – (ii)

(2) (a) – (ii), (b) – (iv), (c) – (iii), (d) – (i)

(3) (a) – (ii), (b) – (iii), (c) – (i). (d) – (iv)

(4) (a) – (ii), (b) – (iii), (c) – (iv), (d) – (i)

Exercise - II (Previous Year Questions) ANSWER KEY

Question	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Answer	4	2	4	4	2	3	3	2	1	4	1	4	3	2	2
Question	16	17	18												
Answer	3	3	4												

TG: @Chalnaayaaar

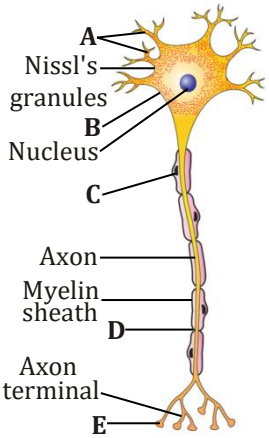
Exercise - III
Master Your Understanding

EXERCISE-III (A) (NCERT Based QUESTIONS)

1. Which system provides an organised network of point to point connection :-
(1) Integrated system
(2) Neuro-endocrine system
(3) Endocrine system
(4) Nervous system

2. Which role of neuron regarding different kinds of stimuli is absent :-
(1) detect (2) receive
(3) transmit (4) protect

3. The accompanied diagram shows the structure of neuron. Identify A to E.



	A	B	C	D	E
(1)	Nerve fibre	Cyton or cell body	Schwann cell	Node of Ranvier	Synaptic knob
(2)	Dendrites	Cyton or cell body	Schwann cell	Node of Ranvier	Synaptic knob
(3)	Dendrites	Nerve cell	Schwann cell	Node of Ranvier	Synaptic knob
(4)	Dendrites	Cyton or cell body	Nerve cell	Node of Ranvier	Synaptic knob

4. When a neuron is not conducting any impulse i.e. resting, the axonal membrane is -
(1) Comparatively more permeable to K^+ and impermeable (nearly impermeable) to Na^+
(2) Impermeable to negatively charged proteins present in the axoplasm
(3) (1) & (2) Both
(4) More permeable to Na^+ ions than K^+ ion

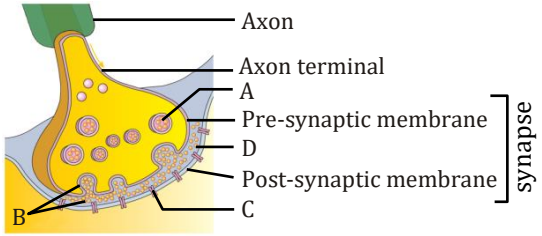
TG: @Chalnaayaaar

5. Pick out the incorrect statement?
(1) Myelinated nerve fibres are found in spinal and cranial nerve.
(2) Unmyelinated nerve fibre is enclosed by a schwann cell.
(3) In resting stage the axonal membrane is comparatively more permeable to potassium ion and nearly impermeable to sodium ions.
(4) Axolemma is more permeable to negatively charged protein present in the axoplasm.

6. During depolarization of the neuronal membrane-
(1) Na^+ ions rapidly move inside the cell
(2) Na^+ ions rapidly move outside the cell
(3) K^+ ions rapidly move outside the cell
(4) K^+ ions rapidly move inside the cell

7. Identify the correct set of statements :
(a) Limbic lobe consists of amygdala and pons.
(b) Cerebral aqueduct passes through the midbrain.
(c) The medulla contains centre which control respiration, cardiovascular reflexes and gastric secretions.
(d) Brain stem forms the connections between the cerebrum and midbrain.
(e) Knee jerk reflex is polysynaptic reflex.
Choose the correct answer from options given below :
(1) (a) and (d) only
(2) (b), (c), (d) and (e) only
(3) (a), (b), (d) and (e) only
(4) (b) and (c) only

8. Study the diagram of synapse-



TG: @Chalnaayaaar

I. Which alphabet indicate the location of the receptor molecules ?
II. Which alphabet points to a synaptic vesicles
III. Which alphabet points to neurotransmitter
IV. Which alphabet points to synaptic cleft

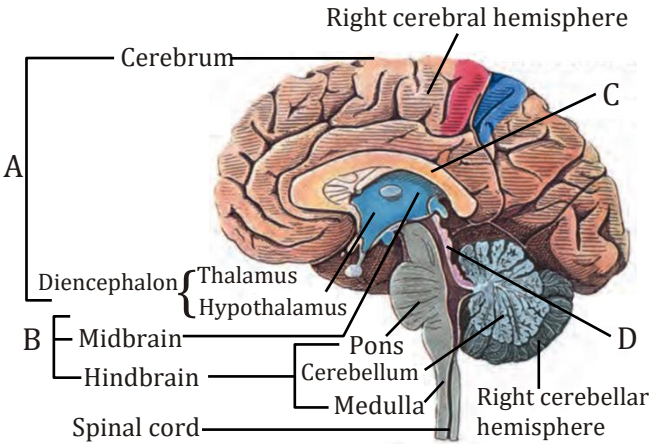
	I	II	III	IV
(1)	C	A	B	D
(2)	B	A	C	D
(3)	C	A	D	B
(4)	C	D	A	B

9. Which of the following statements is false about the electrical synapse ?
I. At electrical synapses, the membranes of pre and post synaptic neurons are in very close proximity.
II. Electrical current can flow directly from one neuron into the other across the synapses.
III. Transmission of an impulse across electrical synapses is very similar to impulse conduction along single axon.
IV. Electrical synapses pass electrical signal between cells with the use of Ach
V. Electrical synapses are fast.
VI. Electrical synapses are rare in our system.
(1) I and II (2) Only II
(3) Only IV (4) Only V

10. Identify the correct set of statements :
(a) Myelinated nerve fibres are found in autonomic and the somatic neural systems.
(b) The gaps between two adjacent myelin sheaths are called nodes of Ranvier.
(c) The axonal membrane is impermeable to negatively charged proteins present in the axoplasm.
(d) Electrical synapses are rare in our system.
(e) Synaptic cleft is present in chemical synapse.
Choose the correct answer from options given below :
(1) (a) and (d) only
(2) (b), (c), (d) and (e) only
(3) (a), (b), (d) and (e) only
(4) (b) and (c) only

TG: @Chalnaayaaar

11. Identify A, B, C and D in given diagram –



(1) A–Forebrain, B–Brainstem, C–Corpus callosum, D–Cerebral aqueduct
(2) A–Forebrain, B–Brainstem, C–Cerebral aqueduct, D–Corpus callosum
(3) A–Brainstem, B–Forebrain, C–Corpus callosum, D–Cerebral aqueduct
(4) A–Brainstem, B–Forebrain, C–Cerebral aqueduct, D–Corpus luteum

12. Given below are two statements: one is labelled as Assertion (A) and the other is labelled as Reason (R).
Assertion (A) : Multipolar neurons are found in the cerebral cortex.
Reason (R) : They consists of one axon and two or more dendrites.
In the light of the above statements, choose the most appropriate answer from the options given below :
(1) Both (A) & (R) are correct but (R) is not the correct explanation of (A).
(2) (A) is correct but (R) is not correct.
(3) (A) is not correct but (R) is correct.
(4) Both (A) & (R) are correct and (R) is the correct explanation of (A).

13. The name of nervous band connecting the cerebral hemispheres is -
(1) Corpus albicans
(2) Corpus callosum
(3) Corpus striatum
(4) Corpus spongiosum

14. Which of the following statements is incorrect about cortex of cerebrum ?
(1) It consists of grey matter
(2) It consists of white matter
(3) It shows prominent folds
(4) It contains motor areas, sensory areas and association areas.

15. Association areas in cerebral cortex are -
(1) Sensory areas
(2) Motor areas
(3) Responsible for intersensory associations, memory and communication
(4) None of the above is correct

16. The cerebrum wraps around a structure called thalamus, which is-
(1) A major coordinating centre for sensory signal only
(2) A major centre for motor signaling
(3) A major coordinating centre for sensory and motor signaling
(4) Not a nervous part of a brain

17. Hypothalamus does not control -
(1) Thermoregulation
(2) Urge for eating and drinking
(3) Produces hormones that regulate the synthesis and secretion of pituitary hormone
(4) Creative thinking and consciousness

EXERCISE-III (B) (ANALYTICAL QUESTIONS)

18. The inner parts of cerebral hemispheres and a group of associated deep structures like amygdala, hippocampus, etc; form a complex structure called-
(1) Recticular system
(2) Corpora quadrigemina
(3) Limbic lobe/limbic system
(4) Arbor vitae

19. Which of the following statements or structures is not correct about the midbrain ?
(1) Located between the thalamus / hypothalamus and pons
(2) Has arbor vitae
(3) Has a canal (Cerebral aqueduct)
(4) Its dorsal part consists of 4 lobes (corpora quadrigemina)

TG: @Chalnaayaaar

20. Read the following statements and choose the correct option –
I. Cerebellum has very convoluted surface in order to provide the additional space for more neurons.
II. The medulla is connected to the spinal cord
III. Medulla contains controlling centres for respiration, cardiovascular reflexes and gastric secretion.
(1) All are correct
(2) Only I is correct
(3) Only I and III are correct
(4) Only II is correct.

21. Different components of reflex arc are given below:
I. Effector organ
II. Interneuron
III. Motor neuron
IV. Sensory neuron
V. Sensory receptor
Choose the correct order an action potential follows after a sensory receptor is stimulated-
(1) V, IV, III, II, I (2) V, IV, II, III, I
(3) V, III, IV, I, II (4) V, II, IV, III, I

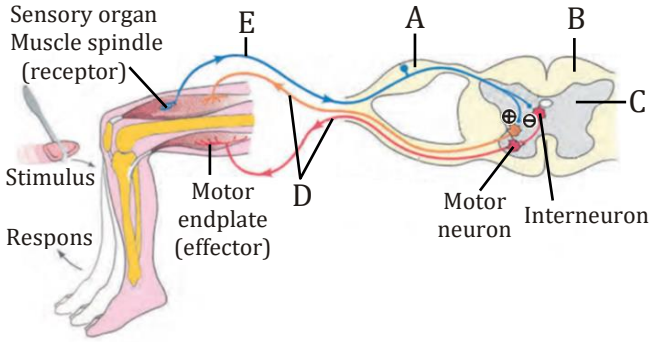
22. Where A stands for axon, D for dendrite, S for synapse, and CB for cell body, a typical sequence of structures between a receptor and an efferent is?
(1) D – CB – A – S – D – CB – A
(2) A – D – CB – S – A – D – CB
(3) D – CB – A – S – A – CB – D
(4) D – A – S – CB – D– A – CB

23. What is meant by a reflex arc in the nervous system?
(1) An inherited behaviour pattern, that functions through a certain neural pathway
(2) A functional unit consisting of a receptor, neural pathway, and an effector
(3) Peripheral nerves, spinal cords and brain
(4) A homeostatic system of sensory nerves, synapses and motor nerves

TG: @Chalnaayaaar

24. Read the following statements :-
(A) Nervous system provides an organised network of point to point connection.
(B) The endocrine system provides chemical integration through hormone.
(C) The neural organisation is very complex in lower invertebrates.
(D) Neuron can detect & receive stimuli but can't transmit.
How many of above statements are false.
(1) 4 (2) 3 (3) 2 (4) 1

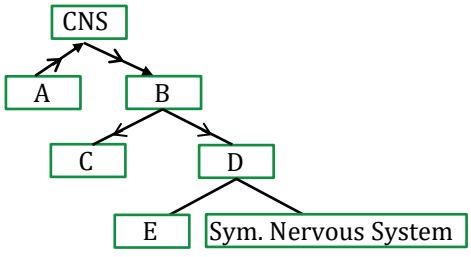
25. The following diagrammatic representation of reflex action shows knee jerk reflex.



In which of the following options corrects words for all the 5 blanks (A to E) are indicated?

	A	B	C	D	E
(1)	Dorsal root ganglion	White matter	Gray matter	Afferent pathway	Efferent pathway
(2)	Dorsal root ganglion	White matter	Gray matter	Efferent pathway	Afferent pathway
(3)	Dorsal root ganglion	Gray matter	White matter	Efferent pathway	Afferent pathway
(4)	Ventral root ganglion	White matter	Gray matter	Efferent pathway	Afferent pathway

26. Which of the following answer shows the correct arrangement of nerve fibre.



TG: @Chalnaayaaar

(1) (A)–Centrifugal, (B)–Efferent, (C)–PNS, (D–ANS, (E)–Parasympathetic
(2) (A)–Centripetal, (B)–Afferent, (C)–PNS, (D)–ANS, (E) Parasympathetic
(3) (A)–Centrifugal, (B)–Afferent, (C)–SNS, (D)–ANS, (E) Parasympathetic
(4) (A)–Centripetal, (B)–Efferent, (C)–SNS, (D) ANS, (E)–Parasympathetic

27. Which statement is correct regarding neuron.
(1) Neuron is composed of 4 parts containing cell body dendrite, axon & telodendria
(2) Nissl's granules are found in both cell body & axon
(3) Impulse are divided into apolar, bipolar & multipolar
(4) Dendrites transmit impulse toward the body while axon transmit impulse away from the body

28. Which of the nervous system transmit impulse from CNS to involuntary organs & smooth muscle ?
(1) Sympathetic nervous system
(2) Parasympathetic nervous system
(3) Autonomic nervous system
(4) Somatic nervous system

29. Read the following statement :-
(A) Peripheral nervous system divide's in somatic nervous system & autonomic nervous system.
(B) Central nervous system includes brain & vertebral column.
(C) Afferent nerve fibre transmit impulse from CNS and vise versa is also correct
How many of above statements is/are false
(1) A & B (2) B & C (3) C & A (4) All

30. Which of the following statement is correct.
(A) The electrical potential difference across the polarised plasma membrane is called as action potential in resting stage.
(B) Na^+ ion is responsible for generating an action potential.
(C) The impulse is action potential
(1) A & B (2) B & C
(3) C & A (4) All

31. Which of the statement is false regarding synapse?
(1) Synapse is formed by 2 membrane first presynaptic membrane of synaptic knob & second post synaptic membrane of dendrite.
(2) Synaptic membrane always be separated by a gap called synaptic cleft.
(3) Electrical synapse in very similar to impulse conduction along a single axon.
(4) In chemical synapse, neurotransmitter is released and either excitatory or inhibitory potential is generated on post synaptic membrane.

32. $Na^+ - K^+$ pump –
(A) Transports $3Na^+$ inwards & $2K^+$ outwards.
(B) Maintain ionic gradients by active transport.
(C) Works against a concentration gradient.
How many of above statements are false ?
(1) All are correct (2) 3
(3) 2 (4) 1

33. Which of the following are controlled by limbic system :-
(A) Emotional reaction
(B) Sexual behaviour
(C) Respiration
(D) Olfaction
(E) Body balance
Choose the correct option –
(1) A, B, C, D, E (2) A, B, D
(3) A, B, C, D (4) A, B, D, E

34. The prime area of brain where different type of information are integrated –
(1) CNS (2) ANS
(3) PNS (4) SNS

Exercise - III ANSWER KEY

Question	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Answer	4	4	2	3	4	1	4	1	3	2	1	1	2	2	3
Question	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
Answer	3	4	3	2	1	2	1	2	3	2	4	4	3	2	2
Question	31	32	33	34											
Answer	2	4	2	1											